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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/977,278	10/16/2001	Shunichi Kondo	019519-331	2067
7590	04/22/2004		EXAMINER	
Platon N. Mandros BURNS, DOANE, SWECKER & MATHIS, L.L.P P.O. Box 1404 Alexandria, VA 22313-1404			GILLIAM, BARBARA LEE	
			ART UNIT	PAPER NUMBER
			1752	

DATE MAILED: 04/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/977,278

Applicant(s)

KONDO, SHUNICHI

Examiner

Barbara Gilliam

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-6, 9-13 and 15-20 is/are rejected.
- 7) ☒ Claim(s) 7, 8 and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Response to Amendment

1. The amendment filed January 22, 2004 has been entered and fully considered.
2. The rejections under 35 USC 103(a) over Rode et al. in view of Sasayama et al. and Tsuji et al. in view of Sasayama et al. are withdrawn.
3. Claims 1, 3-20 are pending.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 3-6, 9, 12, 16, 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Rode et al. (US 4,983,498) with Sasayama et al. (US 6,364,544 B1) cited to support inherency position with respect to electric conductivity of the developing solution.

- a. In US 4,983,498, Rode et al. claim a photopolymerizable mixture consisting essentially of a polymeric binder, an acrylate or alkylacrylate or a polyhydric

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alcohol, comprising one or more groups which are photo-oxidizable on exposure in the presence of a photoreducible dye, and one or more urethane groups, a photoreducible dye as a photoinitiator component, a trihalomethyl compound, and an acridine, phenazine or quinoxaline compound which acts as a photoinitiator (claims 1 & 14). The acrylate or alkylacrylate is a compound of formula (I) (claim 2). In Example 1, an electrochemically roughened and anodized aluminum support was coated with a solution comprising 2.84 pbw (64%) of a terpolymer as the polymeric binder, 1.49 pbw (33%) of an acrylate or alkylacrylate monomer (compounds 1-4), 0.04 pbw (0.90%) of a photoreducible dye as a photoinitiator, 0.03 pbw (0.67%) of a triazine as the trihalomethyl compound and 0.049 pbw (1.1%) of 9-phenylacridine photoinitiator (column 11, lines 42-65 & column 4, line 37 – column 5, line 33). The photopolymerizable mixture of Example 1 meets the present limitations for the photosensitive composition of the present application wherein the polymeric binder meets the present limitations for the same, compounds 1-4 meet the present limitations for the compound having a nitrogen atom and an ethylenically unsaturated double bond and the photoreducible dye and 9-phenylacridine both meet the present limitations for the photopolymerization initiator. Rode et al. also teach the addition of a wide variety of substances as additives including dyes and colored pigments (column 8, line 67 - column 9, line 10). Therefore it would have been obvious to one of ordinary skill in the art to add dyes or colored pigments to the photopolymerizable composition of Rode et al. to provide a clear distinction between the image and background areas after exposure and development. The roughened and anodized aluminum support meets the present limitations for the aluminum support. The plate of Example 1 was exposed using a

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metal halide lamp and developed with a developer comprising sodium metasilicate and 1.2 pbw polyoxyethylene ether (column 11, line 67 – column 12, line 17). The developing solution of Example 1 meets the present limitations for the developing solution of the present application wherein the sodium metal silicate meets the present limitations for the inorganic alkali agent and the polyoxyethylene ether meets the present limitations for the surface active agent. Rode et al do not teach the electric conductivity or pH of the developer however it is the Examiner's position the electric conductivity and pH are inherent properties as supported by the teachings of Sasayama et al.

b. In US 6,364,544 B1, Sasayama et al. claim a developing apparatus and a method of replenishing a replenisher for a developer in an automatic developing apparatus (claims 1-5). The type of plates that can be developed with this developer include negative working image materials and photopolymerizable printing plates (column 9, line 60 – column 10, line 38). According to Sasayama et al., developer conductivity rises by natural evaporation of water from the developer and the known conductivity-based replenishing methods cannot deal with the changes of the appropriate replenishing amount of the replenisher due to the natural evaporation of water (column 1, line 54 – column 2, line 5). A non-silicate type processing agent (developer) exhibits an electric conductivity of 39 mS/cm when recovered from plate processing and silicate type processing agents exhibits an conductivity of 55 mS/cm when recovered from plate processing (column 2, lines 6-20). This teaching would suggest the electric conductivity of the unused developer is less than the conductivity of the recovered developer which meets the present limitations of a developer with an electric conductivity in a range of from 2 to 40 mS/cm. Therefore one would expect the

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silicate and non-silicate developers of Rode et al. to have electric conductivities of 55 mS/cm (or less) and 39 mS/cm (or less) respectively. Further the alkali developer of Sasayama et al. has a pH of 9.0 – 13.5 (column 4, lines 30-33). One of ordinary skill in the art would expect the alkali developer of Rode et al. to have a pH within the range of 9.0 – 13.5 as well. The method taught by Sasayama et al. minimizes the fluctuation of developer sensitivity against the changes in developing conditions (column 2, lines 23-30).

6. Claims 1, 3, 5, 9-13, 15-16, 18-19 and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Tsuji et al. (US 6,514,668 B1) with Sasayama et al. (US 6,364,544 B1) cited to support inherency position with respect to electric conductivity of the developing solution.

a. In US 6,514,668 B1, Tsuji et al. teach a photosensitive lithographic printing plate having a photosensitive resin layer formed on an aluminum substrate subjected to electrolytic surface roughening and anodic oxidation treatment, wherein the photosensitive resin layer is made of a photopolymerizable composition comprising an addition-polymerizable ethylenically unsaturated bond-containing monomer also containing a phosphate compound having at least one (meth)acryloyl group, a photopolymerization initiator and a polymer binder (abstract). It is preferred to use a polyfunctional ethylenic monomer having two or more ethylenically unsaturated bonds in one molecule together with the phosphate compound having at least one (meth)acryloyl group (column 4, lines 15-18). Examples of the polyfunctional ethylenic monomer include urethane (meth)acrylates obtainable by reacting a polyisocyanate

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compound with a hydroxy group-containing (meth)acrylate used in an amount of 20 to 70 wt. % based on the enter ethylenic monomer (column 4, line 57-column 5, line 25 & column 12, lines 37-48). The polymer binder to be used is preferably an alkali soluble polymer with carboxyl groups in its molecule such as a homopolymer or copolymer of (meth)acrylic acid. The preferred acid value of the polymer binder having carboxyl groups in the molecule is from 10 to 250 and a preferred weight average molecular weight is from 5,000 to 500,000 (column 6, lines 45-63). The polymeric binder is used in an amount of 10 to 400 parts by weight relative to 100 parts by weight of the polymerizable ethylenic monomer (column 12, lines 37-48). The polymeric binder of Tsuji et al. meet the present limitations for the polymer binder of the present application specifically the addition polymer binder having a carboxylic acid group in the side chain. Titanocene or hexaarylbiimidazole is preferred as the photopolymerization initiator because the sensitivity, storage stability and the adhesion are good (column 5, lines 25-44 & column 12, lines 37-48). The titanocene initiator meets the present limitations for the same. The photopolymerizable composition may also contain a coloring agent comprising an organic or inorganic dye or pigment (column 12, lines 49-55) which meets the present limitations for a coloring agent. The roughened and anodized aluminum plate meets the present limitations for the same (column 12, line 66 – column 13, line 36). After the plate is image wise exposed, it is then developed with an aqueous solution containing a surfactant and an alkali to form an image. Suitable alkali agents include inorganic alkali agents and suitable surfactants include polyoxyethylene alkyl ether (column 13, line 55 – column 14, line 14). Tsuji et al do not teach the electric conductivity or the pH of the developer however it is the Examiner's position the electric

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conductivity and pH are inherent properties as supported by the teachings of Sasayama et al.

b. In US 6,364,544 B1, Sasayama et al. claim a developing apparatus and a method of replenishing a replenisher for a developer in an automatic developing apparatus (claims 1-5). The type of plates that can be developed with this developer include negative working image materials and photopolymerizable printing plates (column 9, line 60 – column 10, line 38). According to Sasayama et al., developer conductivity rises by natural evaporation of water from the developer and the known conductivity-based replenishing methods cannot deal with the changes of the appropriate replenishing amount of the replenisher due to the natural evaporation of water (column 1, line 54 – column 2, line 5). A non-silicate type processing agent (developer) exhibits an electric conductivity of 39 mS/cm when recovered from plate processing and silicate type processing agents exhibits an conductivity of 55 mS/cm when recovered from plate processing (column 2, lines 6-20). This teaching would suggest the electric conductivity of the unused developer is less than the conductivity of the recovered developer, which meets the present limitations of a developer with an electric conductivity in a range of from 2 to 40 mS/cm. The method taught by Sasayama et al. minimizes the fluctuation of developer sensitivity against the changes in developing conditions (column 2, lines 23-30). Therefore one would expect the silicate and nonsilicate developers of Tsuji et al. to have electric conductivities of 55 mS/cm (or less) and 39 mS/cm (or less) respectively. Further the alkali developer of Sasayama et al. has a pH of 9.0 – 13.5 (column 4, lines 30-33). One of ordinary skill in the art would

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expect the alkali developer of Tsuji et al. to have a pH within the range of 9.0 – 13.5 as well.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rode et al. (US 4,983,498) in view of Toshimitsu et al. (US 6,558,875 B1) with Sasayama et al. (US 6,364,544 B1) cited to support inherency position with respect to electric conductivity of the developing solution.

a. Rode et al. or Sasayama et al. do not teach the addition of a surfactant to the photopolymerizable composition however it would have been obvious to add a surfactant to the composition to improve coatability of the layer as evidenced by the teachings of Toshimitsu et al. (column 11, lines 41-52 & column 13, lines 10-37).

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10. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuji et al. (US 6,514,668 B1) in view of Toshimitsu et al. (US 6,558,875 B1) with Sasayama et al. (US 6,364,544 B1) cited to support inherency position with respect to electric conductivity of the developing solution.

a. Tsuji et al. do not teach the addition of a surfactant to the photopolymerizable composition however it would have been obvious to add a surfactant to the composition to improve coatability of the layer as evidenced by the teachings of Toshimitsu et al. (column 11, lines 41-52 & column 13, lines 10-37).

Response to Arguments

11. Applicant's arguments filed January 22, 2004 have been fully considered but they are not persuasive in light of the new grounds of rejection presented above.

12. The Examiner was incorrect in rejecting the claims solely under 35 USC 103(a) over Rode et al. in view of Sasayama et al. and Tsuji et al. in view of Sasayama et al. because Sasayama et al. was cited to support the Examiner's inherency position with respect to the electric conductivity of the developing solution. According to the MPEP 2112 a rejection under 102 and 103 can be made when the prior art product seems to be identical except that the prior art is silent as to an inherent characteristic. The rejection under 35 USC 103 has been overcome in light of the provisions of 35 USC 103 (c). See also MPEP 2131.01 and 706.02 (I)(3). Accordingly this rejection is Non-Final.

Allowable Subject Matter

13. Claims 7-8 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

a. With respect to claims 7 and 8, there is no teaching or suggestion in Rode et al. (US 4,983,498) or Tsuji et al. (US 6,514,668 B1) of an ethylenically unsaturated compound having a nitrogen atom that is an amide of an unsaturated carboxylic acid with an aliphatic polyamine compound or an ester of an unsaturated carboxylic acid and an aliphatic polyhydric alcohol compound as required in the present application. Specifically in Rode et al. hydroxy group-containing esters are intermediate compounds and are reacted with diisocyanates (column 4, lines 37-68). With respect to claim 14, there is no teaching or suggestion in Rode et al. or Tsuji et al. of a cellulose polymer binder.

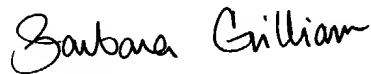
Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barbara Gilliam whose telephone number is 571-272-1330. The examiner can normally be reached on Monday through Thursday, 8:00 AM - 5:30 PM.

a. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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b. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Barbara Gilliam
Examiner
Art Unit 1752
April 19, 2004

bg